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Physico-chemical and Phyto-Chemical Studies of Pathadi Taila: A Herbal Formulation

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Abstract: ***Ayurveda is a discipline of the upaveda or "auxiliary knowledge" in Vedic tradition. Ayurveda significantly developed during the Vedic period and later some of the non-Vedic systems such as Buddhism and Jainismalso incorporated in the system. It is cardinal responsibility of the regulatory authorities to ensure that the consumers get the medication, which guarantee purity, safety, potency and efficacy. This duty is discharged by the regulatory authorities by the rigidity following various standards of quality prescribed for raw materials and finished products in pharmacopoeias controlling manufacturing formulate through the use of formularies and manufacturing operation through statutory imposed 'Good Manufacturing Practices.' The present study intends to standardize parameters that can be used for quality control analysis of Pathadi Taila.***
Keywords: Pathadi Tail, AYUSH, Physico-chemical, Phyto-chemical, Quality control

I. INTRODUCTION

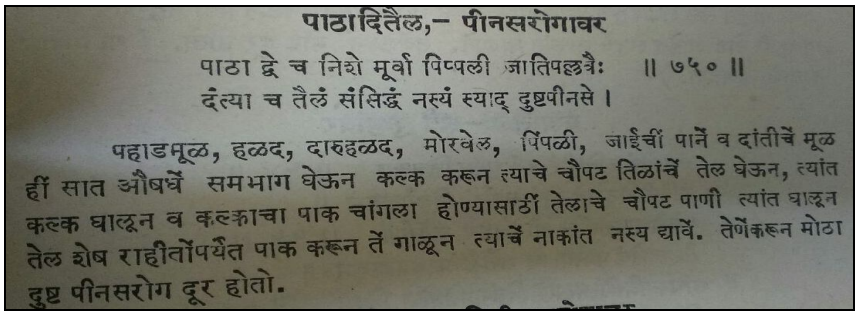
Ayurveda is the most primary Indian systems of medicines. In order to market these products on a commercial basis it is important to maintain quality controls and standardize them based on international guidelines. For these reasons we need to refer to the guidelines and methods in Ayurvedic pharmacopoeia of India, Ayurvedic formulary of India etc.

In present study preliminary standardization of Pathadi Taila was carried out. Present study is based on standardizing physico-chemical and biological parameters which can be useful as supplement information with regards to its identification and shall be helpful in establishing the medicinal uses. According to the results obtained we can conclude that this study plays very important role in the herbal drugs development and its standardization.

Pathadi Taila is effective on pratishaya that is Allergic rhinitis. According to Ayurveda common cold or seasonal cold is known as "Pratishaya". Common old is caused due to aggravated vata, pitta &kapha (body humors). All three body doshas are equally responsible for common cold.

Allergic rhinitis is an allergic inflammation of the nasal airways. It occurs when an allergen, such as pollen, dust , or animal dander (particles of shed skin and hair) is inhled by an individual with a sensitized immune system.

1) *Mode of Administration:* The administration of this Taila is through nasal mucosa.
2) Therapeutic Uses:
3) *Headache:* was due to associated sinusitis or hypertrophy of turbinates pressing the sensitive nerve endings on septum causing reflex headache.
4) *Itching:* Itching in throat, palate, and eyes are common features in allergic rhinitis resulting from histamine release and neural reflexes.
5) *Anosmia:* was seen in 33% of patient which was intermittent in nature present during nasal blockage "Obstacle caused by the swollen turbinate prevent the odors reaching the olfactory area - Anosmia or Hyposmia.


पाठादितैल,– पीनसरोगावर

पाठा द्वे च निशे मूर्वा पिप्पली जातिपल्लवैः ॥ ७५० ॥
दत्त्या च तैलं संसिद्धं नस्यं स्याद् दुष्टपीनसे ।

पहाडमूळ, हळद, दारुहळद, मोरवेल, पिंपळी, जाईचीं पानें व दांतीचें मूळ हीं सात औषधें समभाग घेऊन कल्क करून त्याचे चौपट तिळांचें तेल घेऊन, त्यांत कल्क घालून व कल्काचा पाक चांगला होण्यासाठीं तेलाचे चौपट पाणी त्यांत घालून तेल शेष राहीतोंपर्यंत पाक करून तें गाळून त्याचें नाकांत नस्य द्यावें. तेणेंकरून मोठा दुष्ट पीनसरोग दूर होतो.

The standardization was carried out using various pharmacognostic tools like acid value determination and saponification value determination, phytochemical analysis, macroscopic and microscopic analysis etc.

II. MATERIALS AND METHODS

A. *Preparation of Pathadi Taila*

All the ingredients (Pathmool, Daru hardira**,** Murva, Pimpli**,** Jaifal**,** Dantimool**,** Hardira) were crushed. Required quantity of water was added and kept for soaking for 1 hour. It was then boiled and reduced to half volume. The mixture was filtered with muslin cloth. Castor oil (500 ml) was added into extract. Again it was boiled till water gets evaporated.

Test for completion of procedure: Take a cotton plug and dip it in formulation, if it burns properly without making cracking noise then formulation is complete.

1) *Storage and preservation:* It was preserved in dried, airtight, fungus free clean glass or china clay container.
2) *Organoleptic characteristics:* The finished product was analyzed for its organoleptic properties like Color, Odor, texture and specific gravity.
3) *Microscopic Analysis:* The microscopic Character of each ingredient and final product were carried out(Anonymous, 1992). Permanent slides were prepared and stained with Safronin (1%) + Glycerin (Selvakumar *et al.*,2010).
4) *Physico-chemical analysis:* Acid value, Peroxide value and saponification value was determined (Iyengar, 1995; Trease and Evans Wc., 1989).
5) *Phyto-chemical Analysis:* Preliminary tests were carried out on methanolic extract for the presence / absence of phyto-constituents like Cardiac glycosides, Phlobatanninx, flavanoids, saponin, Terpenoides, steroids and tannins (Sazada *et al.*, 2009).

III. RESULT AND DISCUSSION

Organoleptic parameters revealed that brownish Greyish in color, odorless with oily texture (Table 1).

Microscopic analysis of sample showed the presence of identifying diagnostic characters, which are not overlapping. It shows presence of xylem thickening, Cork cells, xylem vessels, sclerides.

Phytochemical analysis showed presence of glycosides, Phlobatanninx, flavanoids, saponin, steroid and tannins (Table 2).

Acid value (Table 3) showed the increase in the amount of free fatty acid in a sample of oil indicates hydrolysis of triglycerides which can be occurred by action of lipase enzyme & it is an indicator that the process had been carried out at high temperature & relative humidity. Saponification value (Table 4) concerning the character of the fatty acids of the fat- the longer the carbon chain, the less acid is liberated per gram of fat hydrolyzed. Peroxide value for oil was found to be 8 milliequivalents /kg, which was within the range.

Table 1: Organoleptic Characteristics *Pathadi Taila*

Organoleptic characteristics	Formulation
Color	Dark Brown
Texture	Oily
Odor	Pleasant
Specific Gravity	0.786mg/ml

Table 2: Phyto-Chemical Test

No.	Tests	Results							
		1	2	3	4	5	6	7	8
1.	Cardiac glycosides.	A	A	A	P	A	P	A	P
2.	Phlobatanninx	P	P	A	P	A	P	P	P
3.	Flavonoids.	A	A	A	A	A	A	A	P
4.	Tannins	P	P	P	A	A	P	P	P
5.	Steroids	P	P	P	P	P	P	P	P
6.	Terpenoides	P	P	P	P	P	P	P	P
7.	Saponin	P	P	P	P	P	P	P	P

Key: P –Present, A- Absent

1) Pathmool
2) Daru hardira
3) Murva
4) Pimpli
5) Jaifal
6) Dantimool
7) Hardira
8) Formulation

Table 3: Acid Value

Name Of Formulation	B.R (A) For Sample	Weight Taken	Result (%)
Pathadi Taila	9 ml	1 gm	50.49 %

Table 4: Saponification Value

Name Of Formulation	B.R (A) For Sample	Result (%)
Pathadi Tail	29 ml	29.45

IV. CONCLUSION

Standardization of ASU formulation (Pathadi Taila) was successfully carried various parameters like organoleptic test, phytochemical constituent, determination of saponification value, acid value and peroxide value, TLC test were carried out which helped in justifying the quality of formulation. Standardization of formulation helps to meet the desired quality of product. As Pathadi Taila is useful in allergic reactions, the data evolved from the study can be helpful in understanding the importance of standardization which will not lead to scarcity of data.

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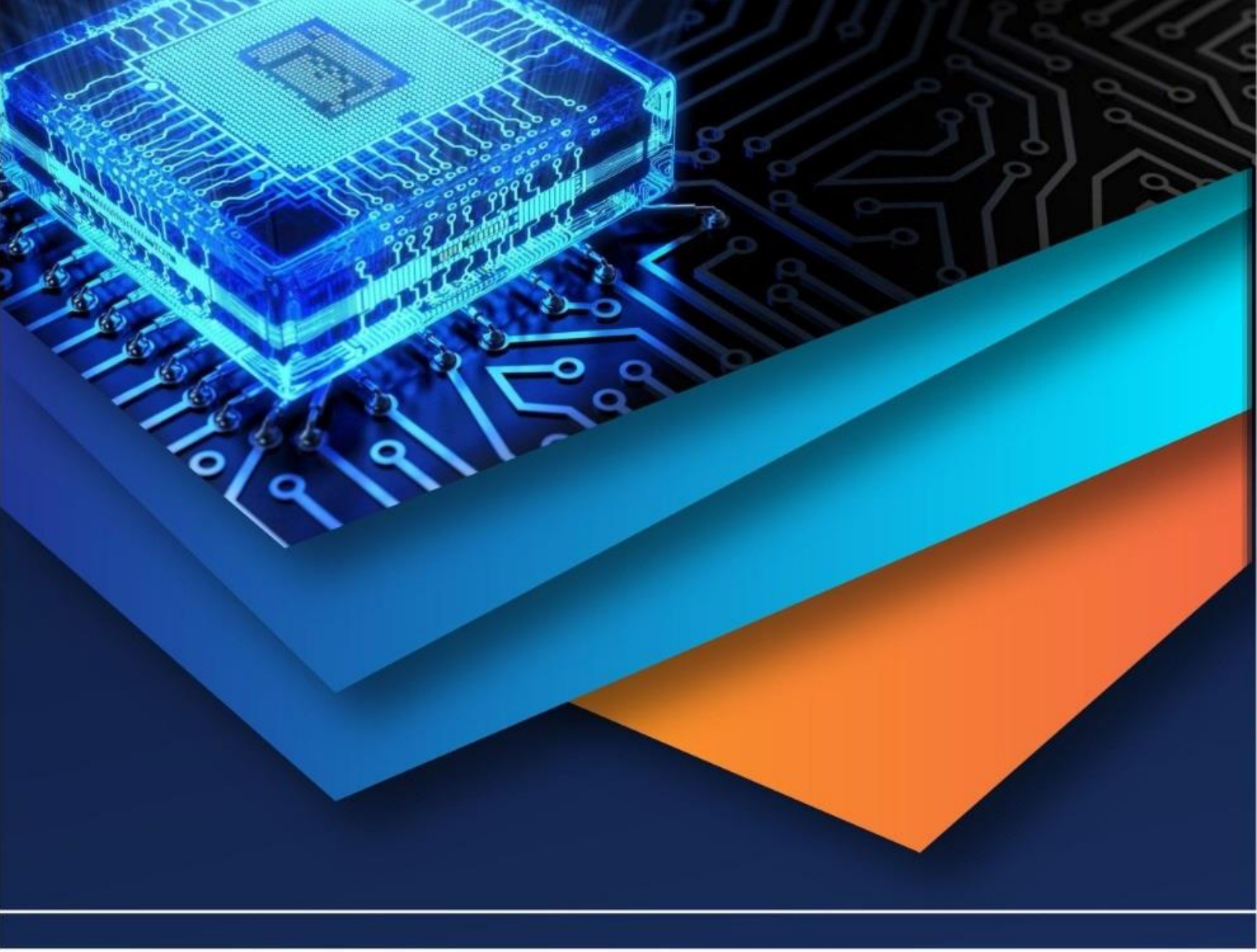

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